# Countertop Rotisserie Oven

MODEL FS

Service Manual

Serial Numbers 122912 and Higher

# Warranty Information

**LIMITED ONE YEAR WARRANTY**

BKI (The "Company") warrants to the original purchaser that at time of shipment from the Company factory, this equipment will be free from defect in materials and workmanship. Written notice of a claim under this warranty must be received by the Company within ONE YEAR from the date of installation, but no longer than ONE YEAR AND THREE MONTHS from date of shipment from the factory. Defective conditions caused by abnormal use or misuse, lack of or improper maintenance, damage by third parties, alterations by unauthorized personnel, acts of God, failure to follow installation and/or operating instructions, or any other events beyond the reasonable control of the Company will NOT be covered under this warranty. The obligation of the Company under this warranty shall be limited to repairing or replacing (at the option of the Company) any part, with the exception of lamps, fuses, and glass (which are not covered under warranty), which is found defective in the reasonable opinion of the Company. Any part found defective by the Company will be repaired or replaced without charge F.O.B. factory, Simpsonville, South Carolina or F.O.B. authorized BKI Distributor. The Company and/or its authorized representatives will assume the normal replacement labor expense for the defective part for the period of the warranty as stated above, excluding travel and/or other expenses incidental to the replacement of the defective part, where replacement work is performed during standard business hours and not subject to overtime, holiday rates, and/or any additional fees. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR LOSS OF USE, LOSS OF REVENUE OR LOSS OF PRODUCT OR PROFIT OR FOR INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, FOOD SPOILAGE OR PRODUCT LOSS. WARRANTY DOES NOT COVER GLASS BREAKAGE. THE ABOVE WARRANTY IS EXCLUSIVE AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**REPLACEMENT PARTS**

Any appliance replacement part, with the exception of lamps, fuses, and glass, which proves to be defective in material or workmanship within ninety (90) days of installation will be replaced without charge F.O.B. Factory, Simpsonville, SC or F.O.B. authorized BKI Distributor. The user shall have the responsibility and expense of removing and returning the defective part to the Company as well as the cost of reinstalling the replacement or repaired part.

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# Introduction

The FS is single revolving mild air convection countertop oven. It utilizes a single revolving rotor system to ensure even product cooking. The unit contains a single stage cook and hold computer with 5 customizable cook programs. Electronic controls are provided for powering the unit, turning on inside lights, turning the rotors and resetting the unit. The rotors are removable to allow for easy maintenance and cleaning.

The ***BKI*** name and trademark on this unit assures you of the finest in design and engineering -- that it has been built with care and dedication -- using the best materials available. Attention to the operating instructions regarding proper installation, operation, and maintenance will result in long lasting dependability to ensure the highest profitable return on your investment.

**NOTICE**

PLEASE READ THIS ENTIRE MANUAL BEFORE OPERATING THE UNIT. If you have any questions, please contact your ***BKI*** Distributor. If they are unable to answer your questions, contact the ***BKI*** Technical Service Department, toll free: 1-800-927-6887. Outside the U.S., call 1-864-963-3471.

## *Safety Precautions*

Always follow recommended safety precautions listed in this manual. Below is the safety alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury or property damage.

### Safety Signs and Messages

The following Safety signs and messages are placed in this manual to provide instructions and identify specific areas where potential hazards exist and special precautions should be taken. Know and understand the meaning of these instructions, signs, and messages. Damage to the equipment, death or serious injury to you or other persons may result if these messages are not followed.

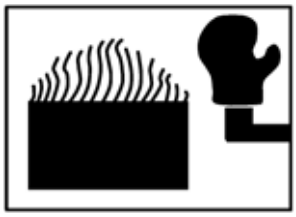
**⚠DANGER** This message indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**⚠WARNING** This message indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

**⚠CAUTION** This message indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE** This message is used when special information, instructions or identification are required relating to procedures, equipment, tools, capacities and other special data.

## Safe Work Practices



**Wear Safe Clothing Appropriate To Your Job**
Always wear your insulated mitts when handling hot racks or touch any hot metal surface. If you lose or damage your mitts, you can buy new ones at your local restaurant equipment supply store or from your local ***BKI*** Distributor.

Always wear non-skid shoes when working around the oven or any other equipment.

Never wear loose clothing such as neckties or scarves while operating this equipment. Keep loose hair tied back or in a hair net while operating this equipment.

Always wear appropriate personal protection equipment during the cleaning process to guard against possible injury from hot cleaning solution.

**Beware of High Voltage**
This equipment uses high voltage. Serious injury can occur if you or any untrained or unauthorized person installs, services, or repairs this equipment. Always Use an Authorized Service agent to Service Your Equipment.

**Keep this manual with the Equipment**
This manual is an important part of your equipment. Always keep it near for easy access. If you need to replace this manual, contact:

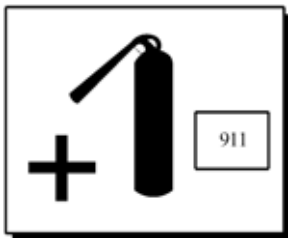
***BKI***
Technical Services Department
P.O. Box 80400
Simpsonville, S.C. 29680-0400
Or call toll free: 1-800-927-6887
Outside the U.S., call 864-963-3471

**Protect Children**
Keep children away from this equipment. Children may not understand that this equipment is dangerous for them and others.

NEVER allow children to play near or operate your equipment.

**Keep Safety Labels Clean and in Good Condition**
Do not remove or cover any safety labels on your equipment. Keep all safety labels clean and in good condition. Replace any damaged or missing safety labels. Refer to the Safety Labels section for illustration and location of safety labels on this unit. If you need a new safety label, obtain the number of the specific label illustrated on page 5, then contact:

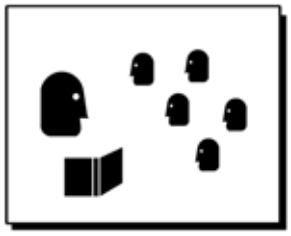
***BKI***
Technical Services Department
P.O. Box 80400
Simpsonville, S.C. 29680-0400
Or call toll free: 1-800-927-6887
Outside the U.S., call 864-963-3471




**Be Prepared for Emergencies**
Be prepared for fires, injuries, or other emergencies.

Keep a first aid kit and a fire extinguisher near the equipment. You must use a 40-pound Type BC fire extinguisher and keep it within 25 feet of your equipment.

Keep emergency numbers for doctors, ambulance services, hospitals, and the fire department near your telephone.



**Know your responsibilities as an Employer**

- Make certain your employees know how to operate the equipment.
- Make certain your employees are aware of the safety precautions on the equipment and in this manual.
- Make certain that you have thoroughly trained your employees about operating the equipment safely.
- Make certain the equipment is in proper working condition. If you make unauthorized modifications to the equipment, you will reduce the function and safety of the equipment.

## *Health And Sanitation Practices*

***BKI*** Rotisserie Ovens are manufactured to comply with health regulations and are tested and certified to NSF standards. You must operate the equipment properly, using only quality products and use meat thermometers to insure meats are thoroughly cooked.

### Food Handling

- Wash hands thoroughly in warm, soapy water after handling raw poultry or meats.
- Clean and sanitize all utensils and surfaces that have been in contact with raw products. Clean and sanitize the meat forks or baskets between cooking.
- **Never** place cooked meats on the same surfaces used to prepare raw meats, unless the area has been thoroughly cleaned and sanitized.

### Storage Of Raw Meats

- Designate an area or shelf strictly for the storage of all raw meats to be used in the rotisserie.
- Raw product must always be stored at temperatures below 38° F. (3° C.).
- **Never** store or mix raw foods above cooked foods, as *this is a health hazard*. The drippings from raw foods contaminate cooked or processed foods.
- All chicken and chicken parts to be stored overnight must be thoroughly iced down and refrigerated.

### Coding Cooked Foods

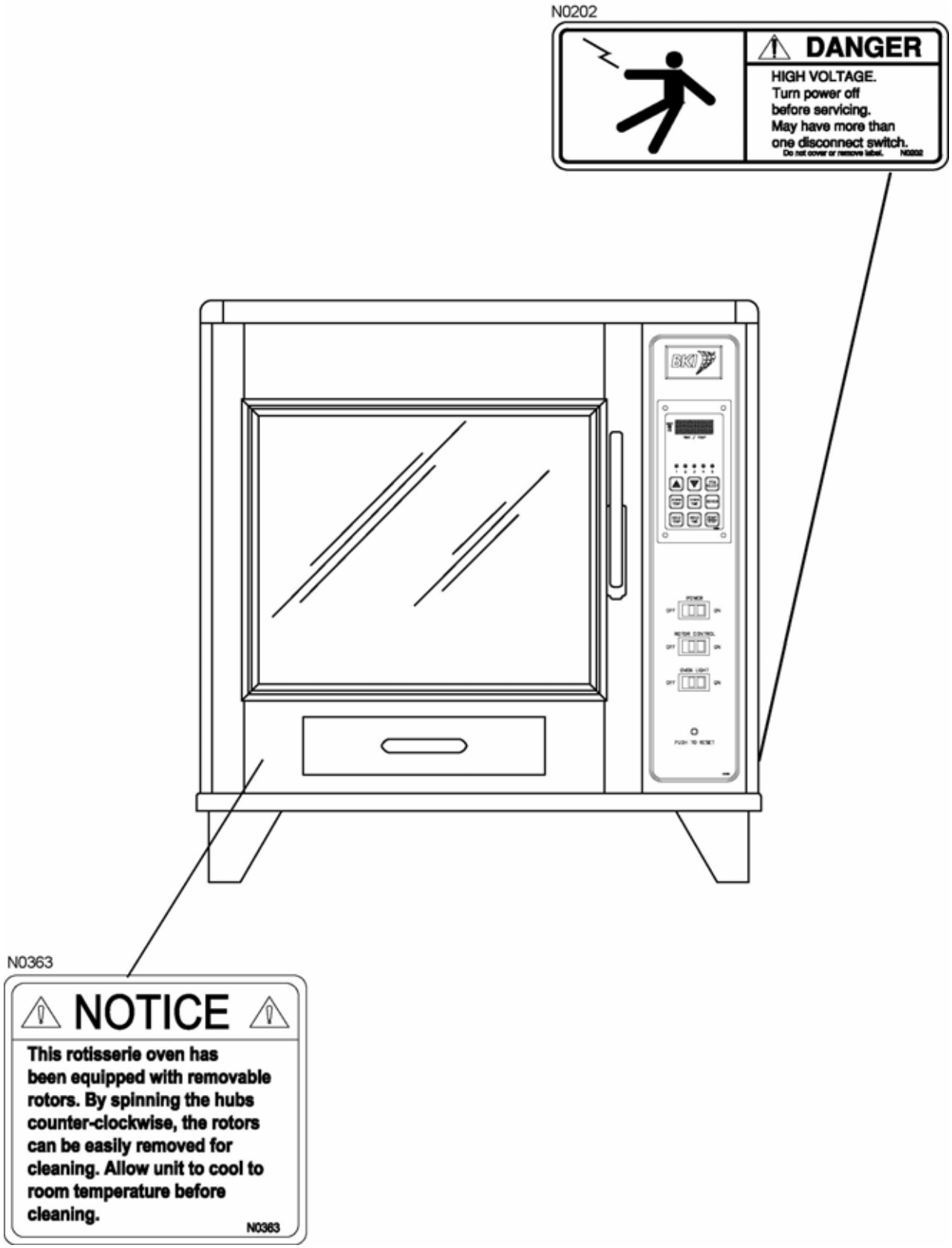
All products cooked during the day should be sold the same day.

**NOTE:** It is not the intent of the rotisserie program to have unsold merchandise at the end of the cooking day. Follow your company's procedures for the handling of any leftover product.

### Storage Of Prepared Foods

- Cold foods should be kept at or below 38° F. (3° C.).
- Hot foods must be maintained to meet local health codes, usually a minimum 145° F. (63° C.).

## *Safety Labels*



# Installation

**⚠WARNING** Serious injury, equipment damage or death could result if attempting to install this oven yourself. Ensure that an authorized BKI service agent installs the oven.

## *Unpacking and Handling*

It is the owners' responsibility to file all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage to cartons or crates is found, or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is found when the equipment is opened, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Packaging material **MUST** be retained to show the inspector from the truck line.

Remove all packing from the interior and exterior of the oven.

## *Location and Clearance*

Underwriters Laboratories requires that the oven have at least 6" clearance from combustible surfaces at the rear of the machine.

## *Wiring*

**⚠WARNING** Electrocution, equipment failure or property damage could result if an unlicensed electrician performs the electrical installation. Ensure that a licensed electrician perform the electrical installation in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI NFPA 70-20XX.

This unit, when installed by an authorized BKI service agent, must be wired for use in accordance with all applicable local, state, and federal codes. For specific electrical requirements and connections refer to the wiring diagram attached to the unit or provided in the Service Manual.

# Replacement Parts

Use the information in this section to identify replacement parts. To order replacement parts, call your local ***BKI*** sales and service representative. Before calling, please note the serial number on the rating tag affixed to the unit.

## *Assemblies*

| Description | Assembly # | Figure # | Table # | Page # |
|---|---|---|---|---|
| DRIP PAN | SB5242 | Figure 1 | Table 1 | 8 |
| BASE | SB5236<br>SB5255 | Figure 2 | Table 2 | 10 |
| CONTROL PANEL | SB5262<br>SB5252<br>SB5241<br>SB5263<br>SB5265 | Figure 3 | Table 3 | 12 |
| DOOR | SB5243 | Figure 4 | Table 4 | 14 |
| INSIDE TOP | SB5237<br>SB5254 | Figure 5 | Table 5 | 16 |
| ROTOR SYSTEM<br>SHAFT & PULLEY WELDMENT<br>PLAIN SIDE ROTOR<br>SPRING SIDE ROTOR | <br>SB5211<br>SB5258<br>SB5259 | Figure 6 | Table 6 | 18 |
| INSIDE CABINET | SB5238 | Figure 7 | Table 7 | 20 |

***Figure 1.*** *Drip Pan*

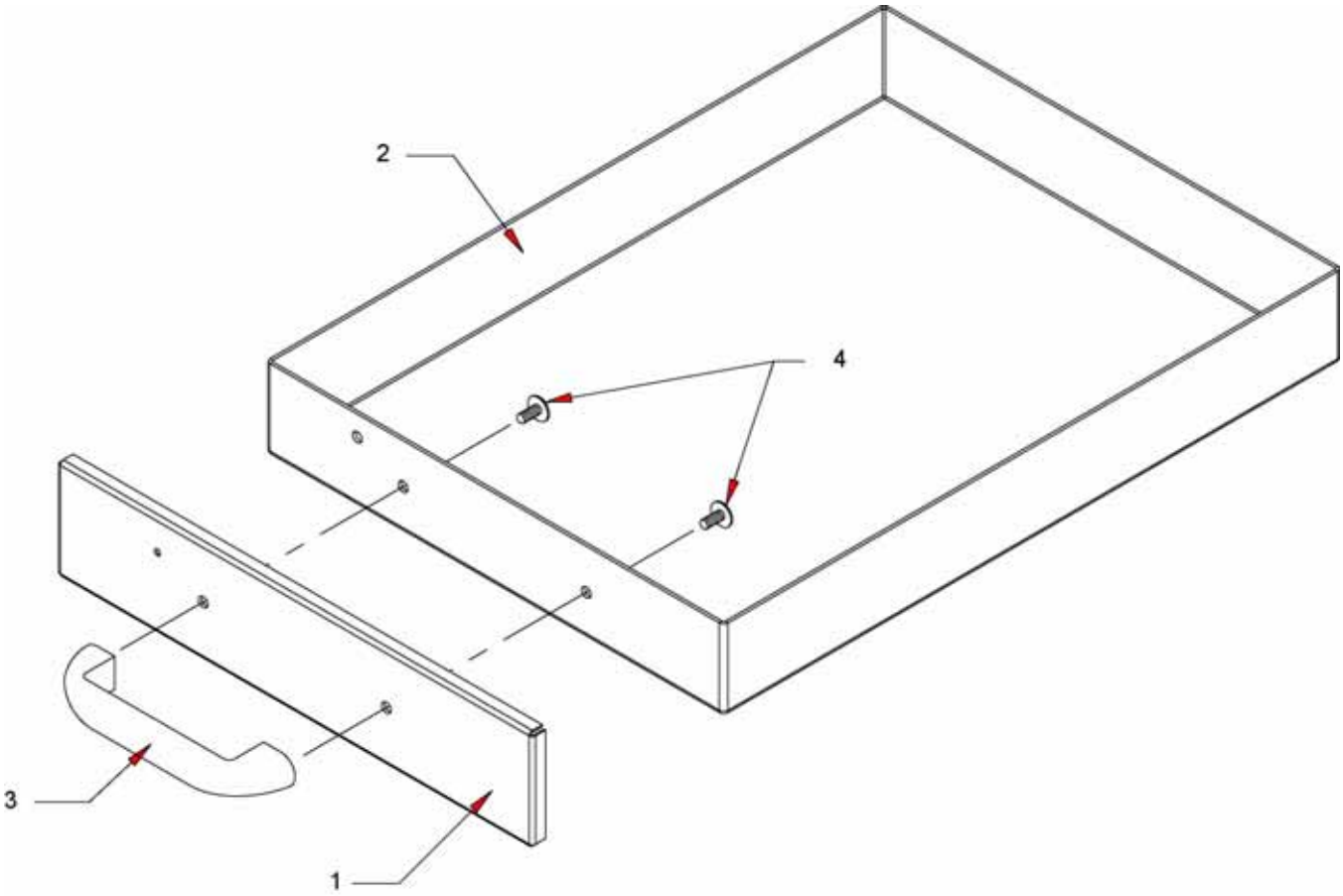


***Table 1.*** *Drip Pan Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | FSA054 | 1 | COVER PLATE, DRIP PAN FS |
| 2 | WFSA059 | 1 | DRIP PAN, FS WELDED |
| 3 | H0201 | 1 | HANDLE, LID |
| 4 | SCR274 | 2 | SCREW, 8-32 X 1/4 SLTD PAN |

***Figure 2.*** *Base*

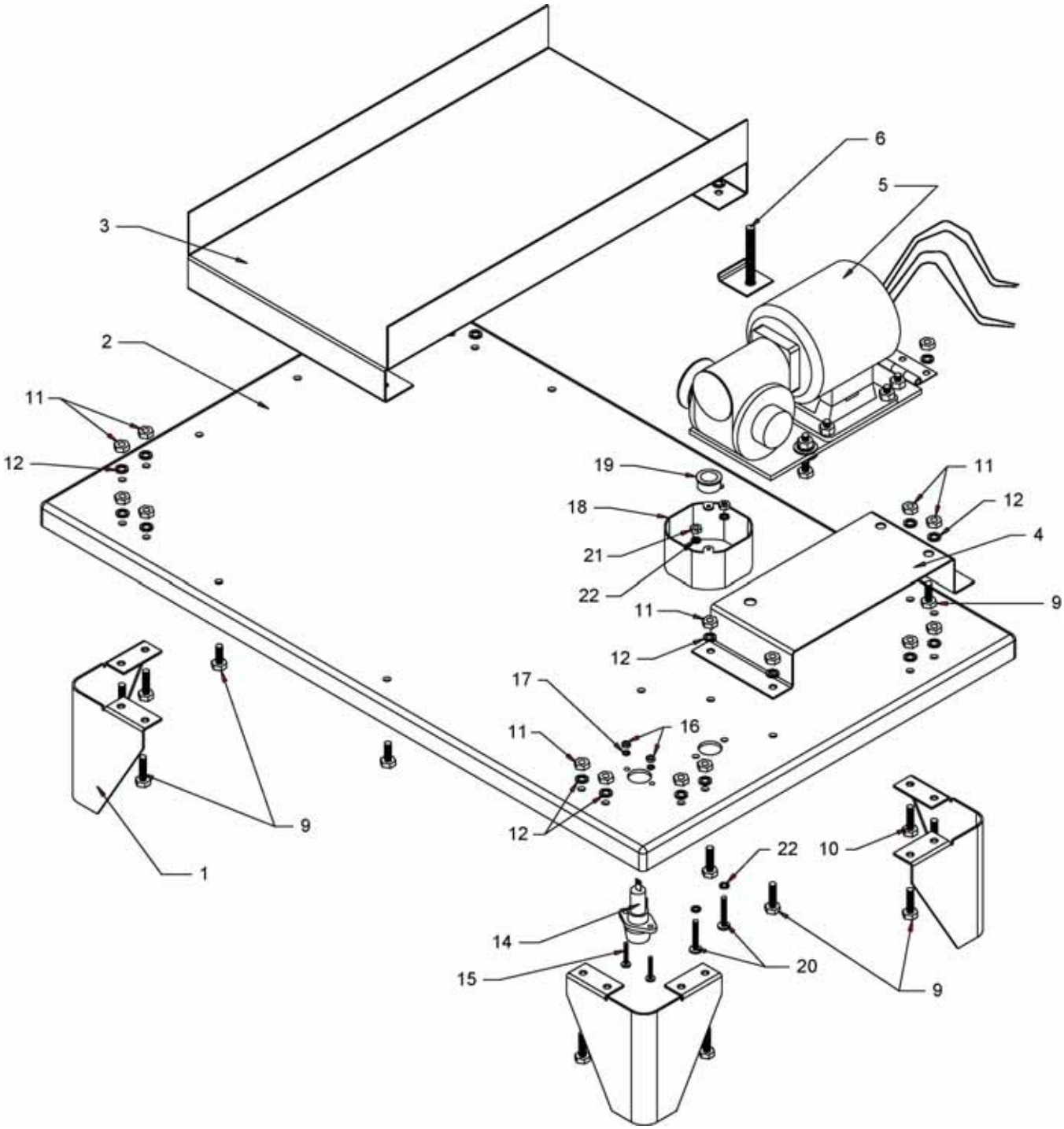


***Table 2.*** *Base Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | FSA074B | 4 | LEG, FS PAINTED BLACK |
| 2 | WFSA060 | 1 | BASE, FS CORNERS WELDED |
| 3 | FSA065 | 1 | DRIP PAN SUPPORT |
| 4 | FSA075 | 1 | MOTOR MOUNT SUPPORT |
| 5 | SB5208<br>or<br>SB5223 | 1 | MOTOR MOUNT ASSY, 120V FS<br>or<br>MOTOR MOUNT ASSY, FS |
| 6 | SB0212 | 1 | MTG PLATE & SCREW WELD ASSY |
| 7 | WSH041 * | 1 | WASHER, 3/8 USS FLAT |
| 8 | NUT096 * | 1 | NUT, 3/8-16 STOVER LOCK |
| 9 | SCR059 | 22 | SCREW, 1/4-20 X 3/4 HEX CAP |
| 10 | SCR060 | 2 | SCREW, 1/4-20 X 1 HEX CAP |
| 11 | NUT053 | 24 | NUT, 1/4-20 HEX HEAVY ZINC PLT |
| 12 | WSH044 | 24 | WASHER, 1/4 LOCK ZINC PLTD |
| 13 | F0097 * | 1 | FUSE, 15A 300V SC15 TIME DELAY |
| 14 | FH0001 | 1 | FUSE HOLDER, 15A 300V HPF-EE |
| 15 | SCR323 | 2 | SCREW, 6-32 X 1/2 PHIL RD |
| 16 | NUT048 | 2 | NUT, 6-32 HEX ZINC PLTD |
| 17 | WSH089 | 2 | WASHER, #6 INT LOCK ZINC PLATED |
| 18 | OB0001 | 1 | BOX, OUTLET OCTAGON 1/2 KO |
| 19 | F0155 | 2 | BUSHING, BLK 7/8 HEYCO SNAP |
| 20 | SCR162 | 2 | SCREW, 10-24 X 1 SLTD RD |
| 21 | NUT051 | 2 | NUT, 10-24 HEX ZINC PLTD |
| 22 | WSH037 | 4 | WASHER, 3/16 SAE FLAT |

**** - Not Shown***

***Figure 3.*** *Control Panel*

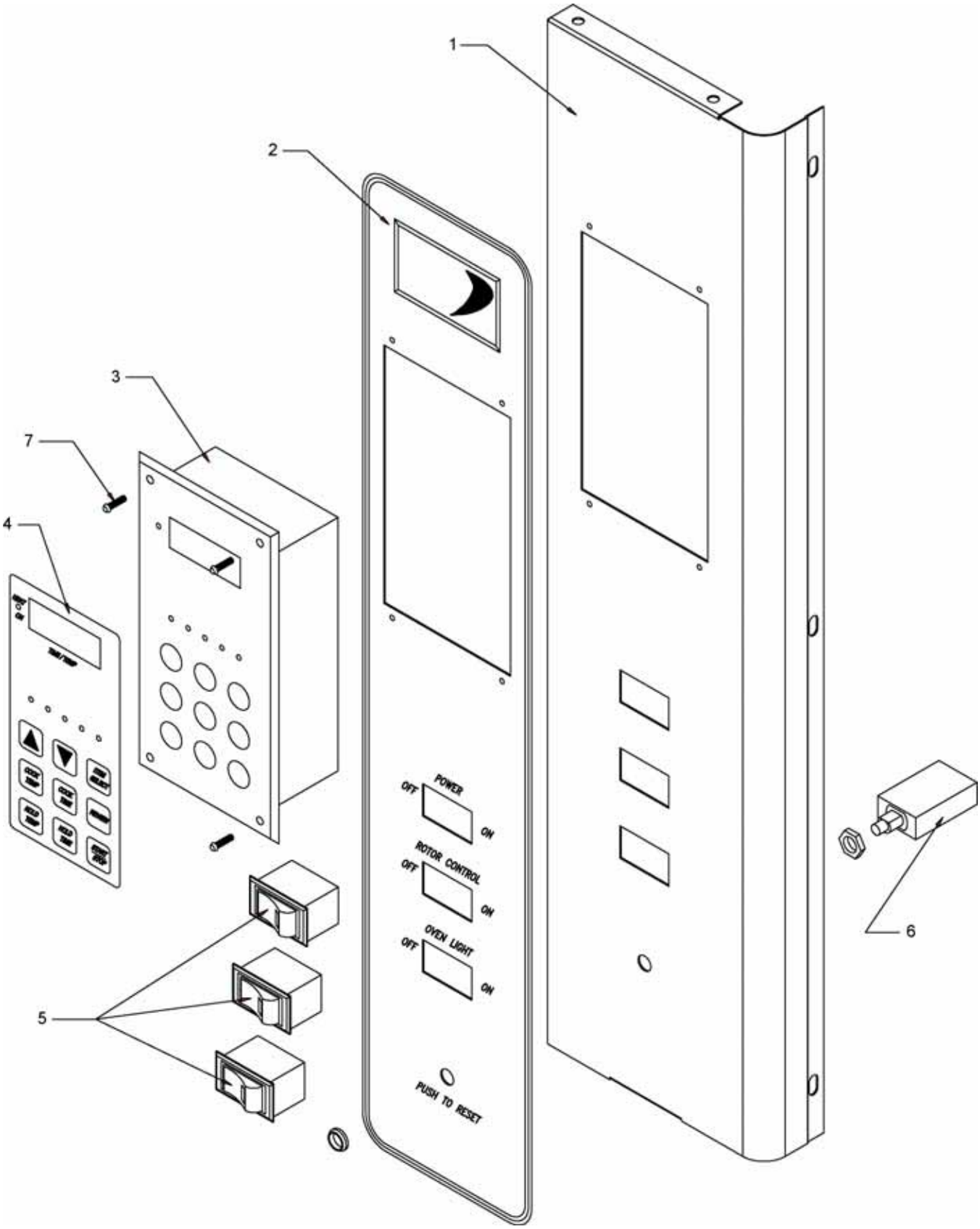


***Table 3.*** *Control Panel Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | FSA061 | 1 | CONTROL PANEL, W/O SMOKE |
| 2 | N0388 | 1 | DECAL, CONTROL PANEL FS |
| 3 | CP0022 | 1 | CONTROLLER, DIGT TEMP/TIME |
| 4 | N0389 | 1 | DECAL, CONTROLLER OVERLAY (CP0022) |
| 5 | S0107 | 3 | SWITCH, RKR SPST 15A 125V LAMP |
| 6 | CB0050 | 1 | BREAKER, CIRCUIT 3 AMP 250V |
| 7 | SCR006 | 4 | SCREW, 8 X 1/2 PHIL PAN |
| 8 | R0002 *<br>or<br>R0004 * | 1 | RELAY, 2 POLE 110/120V<br>or<br>RELAY, 2 POLE 208/240V |

**** - Not Shown***

***Figure 4.*** *Door*

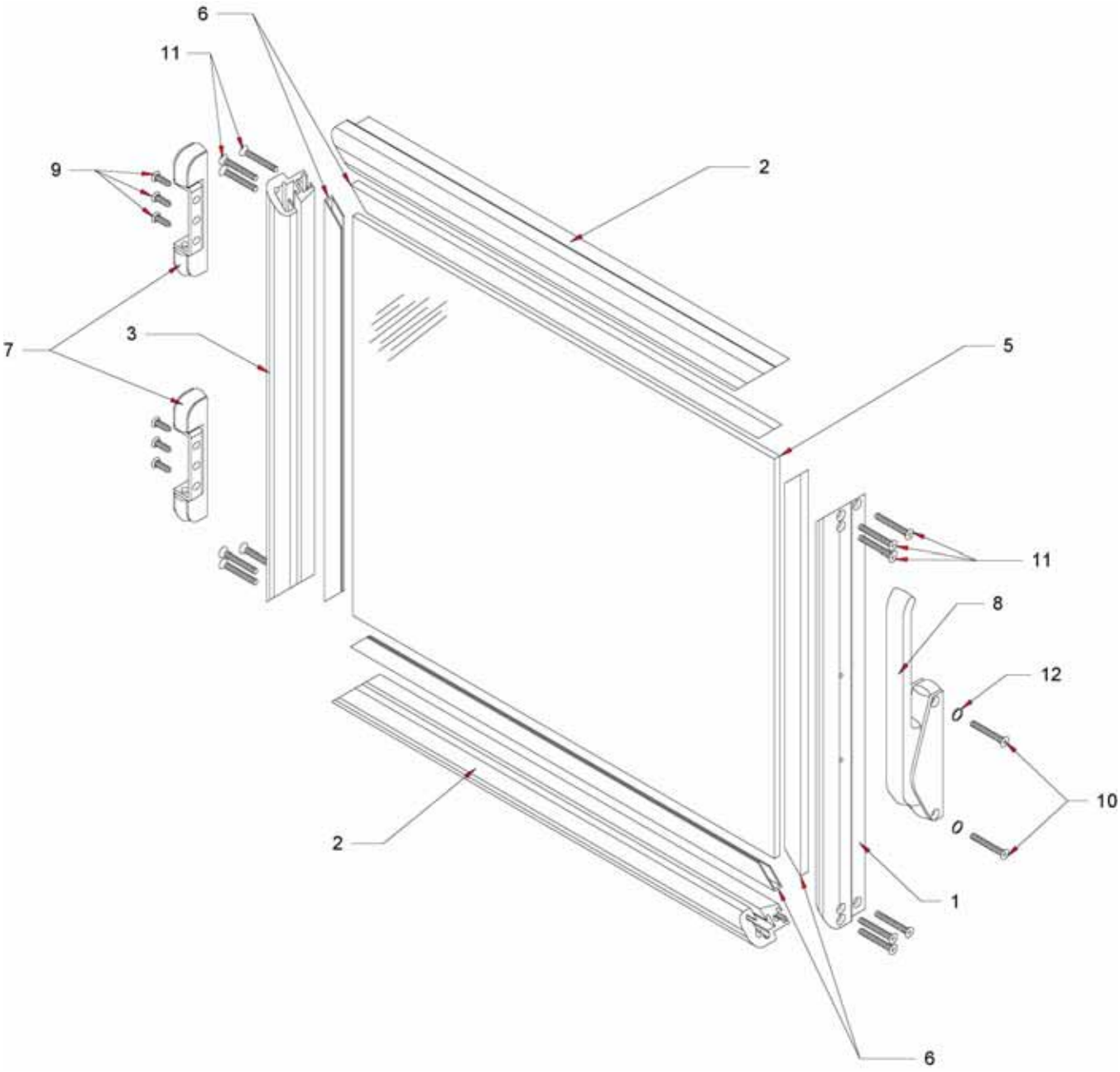


***Table 4.*** *Door Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | FSA089 | 1 | DOOR STOCK, EA0082 16.625 |
| 2 | FSA087 | 2 | DOOR STOCK, FS EA0081 20.125 |
| 3 | FSA088 | 1 | DOOR STOCK, EA0082 16.625 |
| 4 | G0302 * | 6.021 ft. | GASKET, SILICONE MACHINE |
| 5 | GL0105 | 1 | GLASS, 15 15/16 X 19 7/16 |
| 6 | GT0003 | 5.896 ft. | GASKET, GLASS FS |
| 7 | H0001 | 2 | HINGE, DOOR 7/8 OFFSET |
| 8 | L0110 | 1 | LATCH, KASON #544, MAGNETIC |
| 9 | SCR014 | 6 | SCREW,10 X 3/4 PHIL FLT UNDERCUT |
| 10 | SCR020 | 2 | SCREW, 10 X 1 1/2 PHIL OVAL |
| 11 | SCR197 | 12 | SCREW, 10-24 X 1 1/2 PHIL FL |
| 12 | WSH254 | 2 | WASHER, #10 INT TOOTH |

**** - Not Shown***

***Figure 5.*** *Inside Top*

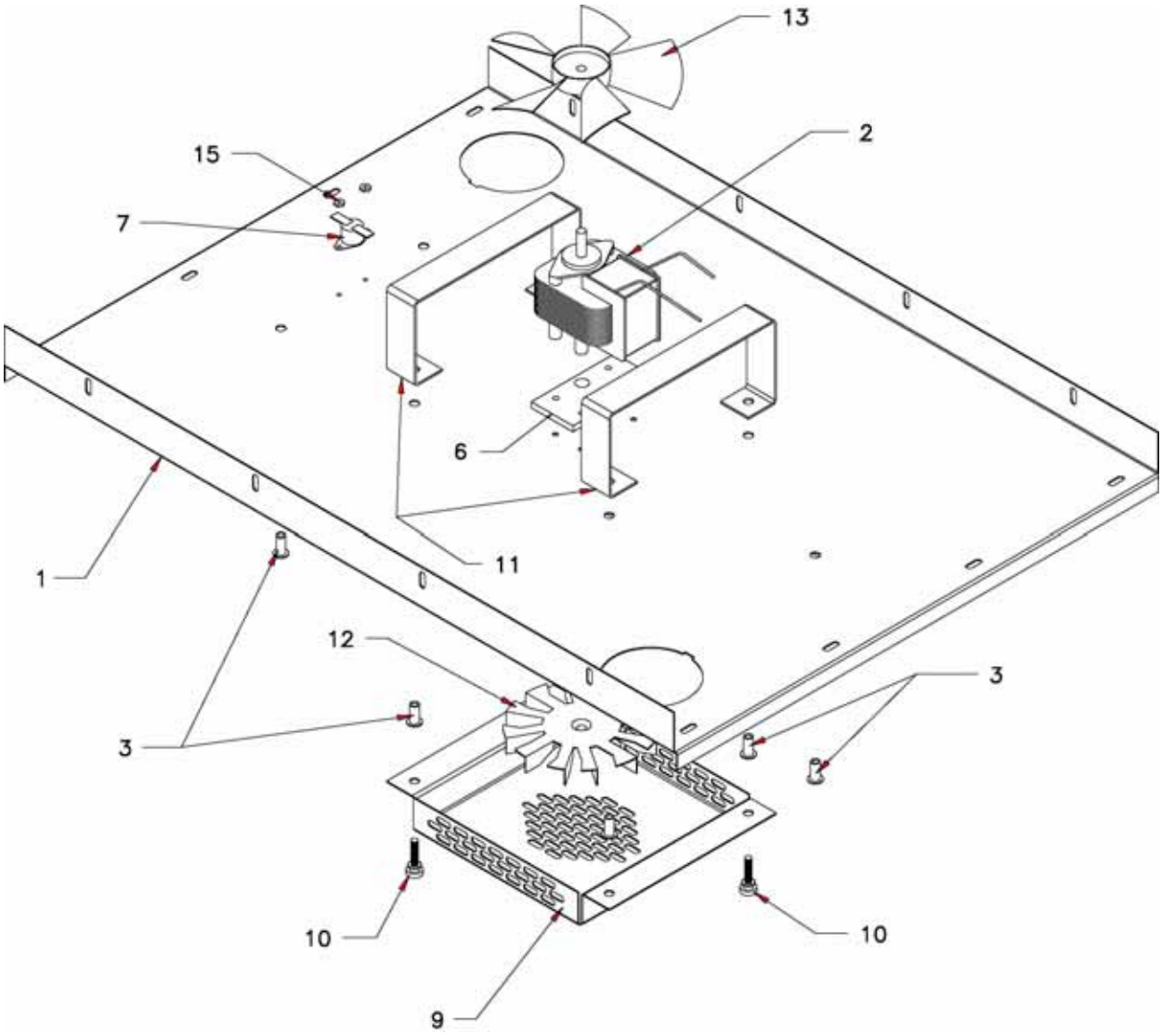


***Table 5.*** *Inside Top Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | FSA053 | 1 | INSIDE TOP, FS ECO PENDING 5-20-98 |
| 2 | M0063<br>or<br>M0068 | 1 | MOTOR, 120V SHADED POLE 5A143-30<br>MOTOR, 208/240V 60 HZ 5A143-33 |
| 3 | F0083 | 7 | THREAD INSERT 10-24 STEEL |
| 4 | SCR118 * | 4 | SCREW, 6-32 X 5/8 SLTD RD |
| 5 | WSH089 * | 4 | WASHER, #6 INT LOCK ZINC PLATED |
| 6 | FA10513718<br>or<br>HB0001 | 1 | HEAT BARRIER PLATE MSR<br>or<br>HEAT BARRIER, MSR 1 1/2 X 3 |
| 7 | S0115 | 1 | SWITCH, OVERTEMPERATURE |
| 8 | F0243 * | 2 | TERMINAL, 1/4" QUICK CONNECT |
| 9 | FSA073 | 1 | FAN SHROUD |
| 10 | SCR121 | 4 | SCREW, 10-24 X 3/4 KNURLED BRT |
| 11 | FSA057 | 2 | FAN OFFSET SUPPORT |
| 12 | FN0021 | 1 | FAN BLADE, 4" METAL 4-HF.250-Y |
| 13 | FN0022 | 1 | FAN BLADE, 5" RHF .250-O |
| 14 | SCR219 * | 2 | SCREW, 4-40 X 3/8 PHIL PAN |
| 15 | NUT180 * | 2 | NUT, 4-40 WASHER LOCKNUT |

* - **Not Shown**

***Figure 6.*** *Rotor System Assembly*

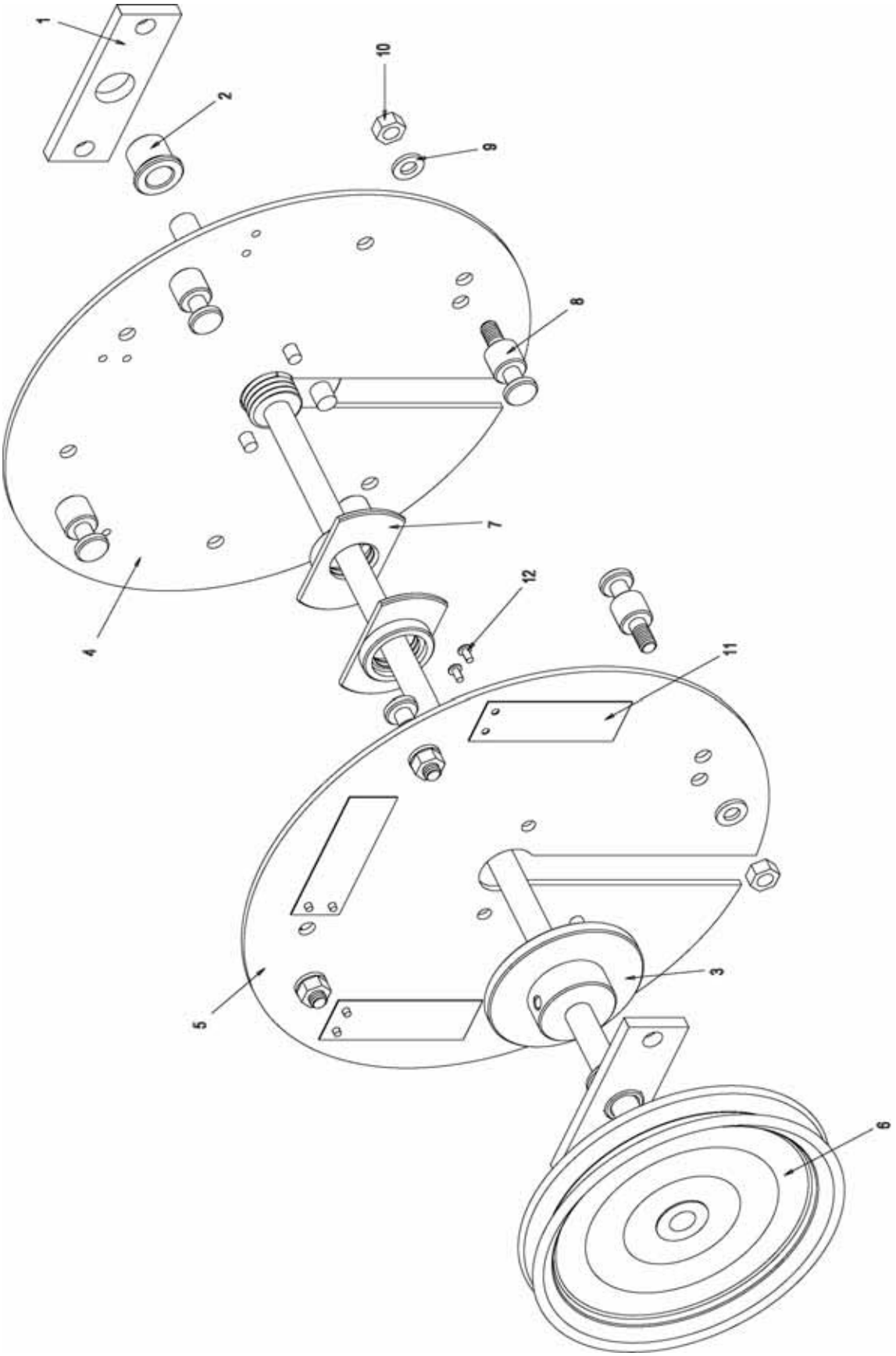


***Table 6.*** *Rotor System Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | LMWSA018 | 2 | BEARING BLOCK |
| 2 | B0203 | 2 | BUSHING, 3/4" ROTOR TZ001281 |
| 3 | H0100 | 2 | HUB, QUIK RELEASE (FS) |
| 4 | SB5258 | 1 | ROTOR ASSY, FS PLAIN SIDE |
| 5 | SB5259 | 1 | ROTOR ASSY, FS SPRING SIDE |
| 6 | SB5211 | 1 | SHAFT & PULLEY WELD ASSY, FS |
| 7 | H0101 | 2 | HUB SPINNER, QUIK RELEASE FS |
| 8 | P0060 | 4 | PIN, DISC ROTOR STANDOFF |
| 9 | WSH045 | 4 | WASHER, 5/16 LOCK ZINC PLTD |
| 10 | NUT055 | 4 | NUT, 5/16-18 FINISHED HEX |
| 11 | S0033 | 3 | SPRING, ROTOR |
| 12 | RIV172 | 6 | RIVET, 1/8 CS ZINC (.187-.250) |

***Figure 7.*** *Inside Cabinet*

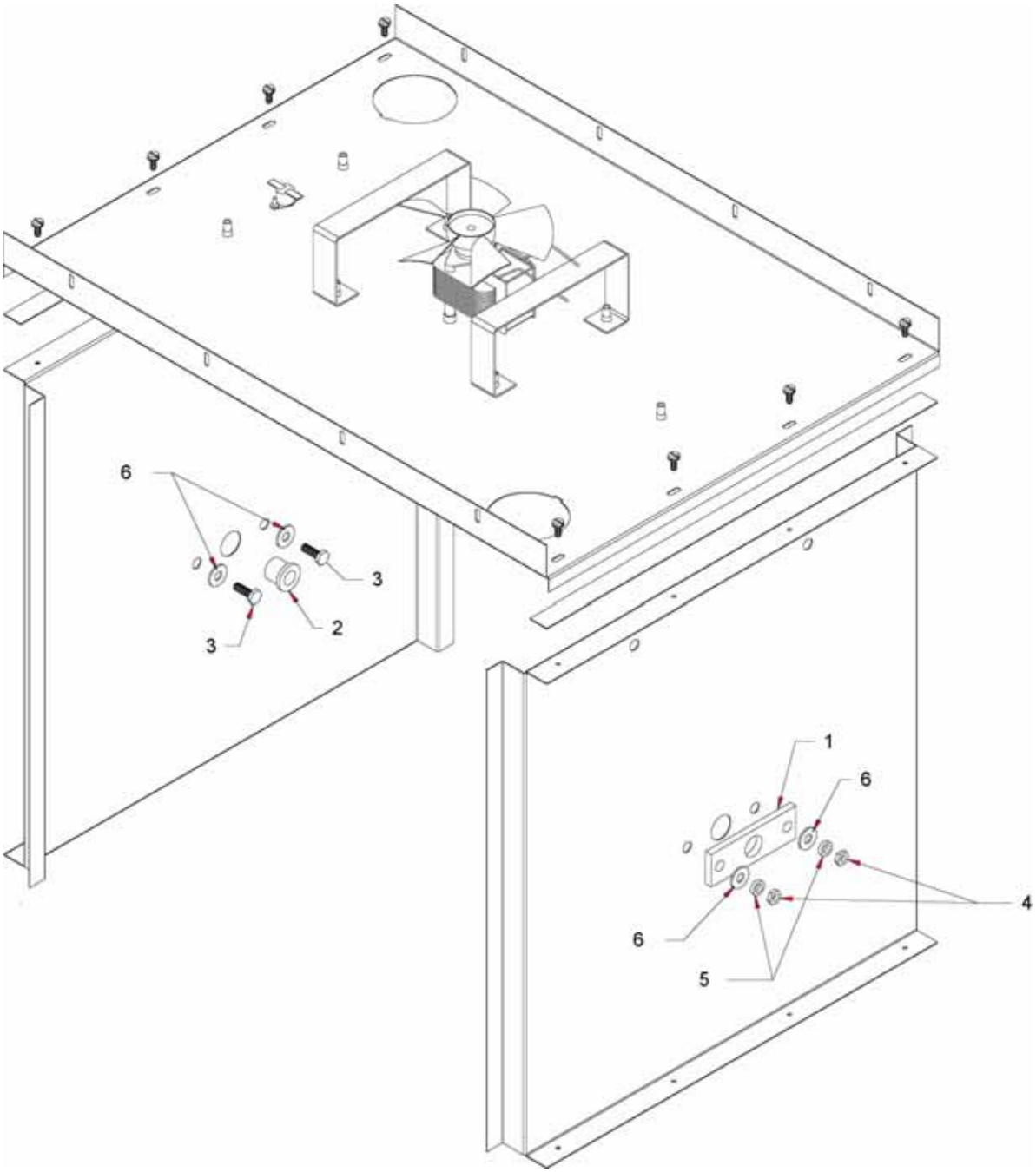
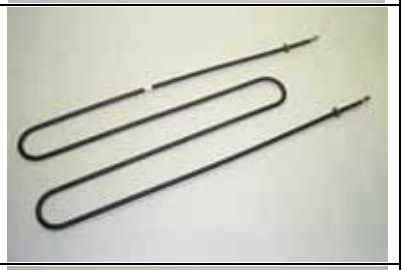
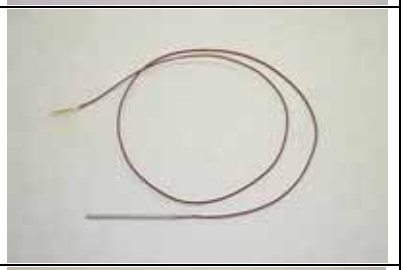
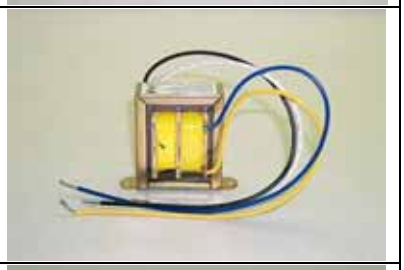


***Table 7.*** *Inside Cabinet Parts*

| ITEM # | PART # | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | LMWSA018 | 2 | BEARING BLOCK |
| 2 | B0203 | 2 | BUSHING, 3/4" ROTOR TZ001281 |
| 3 | SCR059 | 4 | SCREW, 1/4-20 X 3/4 HEX CAP |
| 4 | NUT053 | 4 | NUT, 1/4-20 HEX HEAVY ZINC PLT |
| 5 | WSH044 | 4 | WASHER, 1/4 LOCK ZINC PLTD |
| 6 | WSH040 | 8 | WASHER, 5/16 USS FLAT |

## *Components*

| Description | QTY | Part # | Item # |
|---|---|---|---|
| BULB, TUFFSKIN 40W 250V | 2 | B0553 | |
| CALROD, 120V 2800W<br>CALROD, 208V 2800W<br>CALROD, 240V 2800W | 1 | C0036<br>C0037<br>C0038 |  |
| LAMPHOLDER W/BULB 120V 40W | 2 | LH0019 | |
| THERMOCOUPLE, TYPE K T-2016 | 1 | T0085 |  |
| TRANSFORMER, 120-24V LGF | 1 | TF0005 |  |
| TRANSFORMER, 240-24V LGF | 1 | TF0030 | |

| Description | QTY | Part # | Item # |
|---|---|---|---|
| V-BELT, 4L-300 | 1 | VB0002 | |

## *Accessories*

| Description | Part # | Item # |
|---|---|---|
| INSULATED MITT 13" | G0052 | |
| BASKET, MEAT FS | MB0007 | |
| MEAT FORK 20 3/4" LMWS | MF0002 | |

# Wiring Diagrams

| Description | Assembly # | Figure # |
|---|---|---|
| 120V/1 Phase | FSE1013 | Figure 8 |
| 120V/208V/1 Phase | FSE1014 | Figure 9 |
| 208-220V/240V/1 Phase | FSE1019 | Figure 10 |
| 220V/240V/50HZ/1 Phase | FSE1021 | Figure 11 |
| 230V/50HZ/1 Phase | FSE1020 | Figure 12 |

***Figure 8.*** *120V/1 Phase*

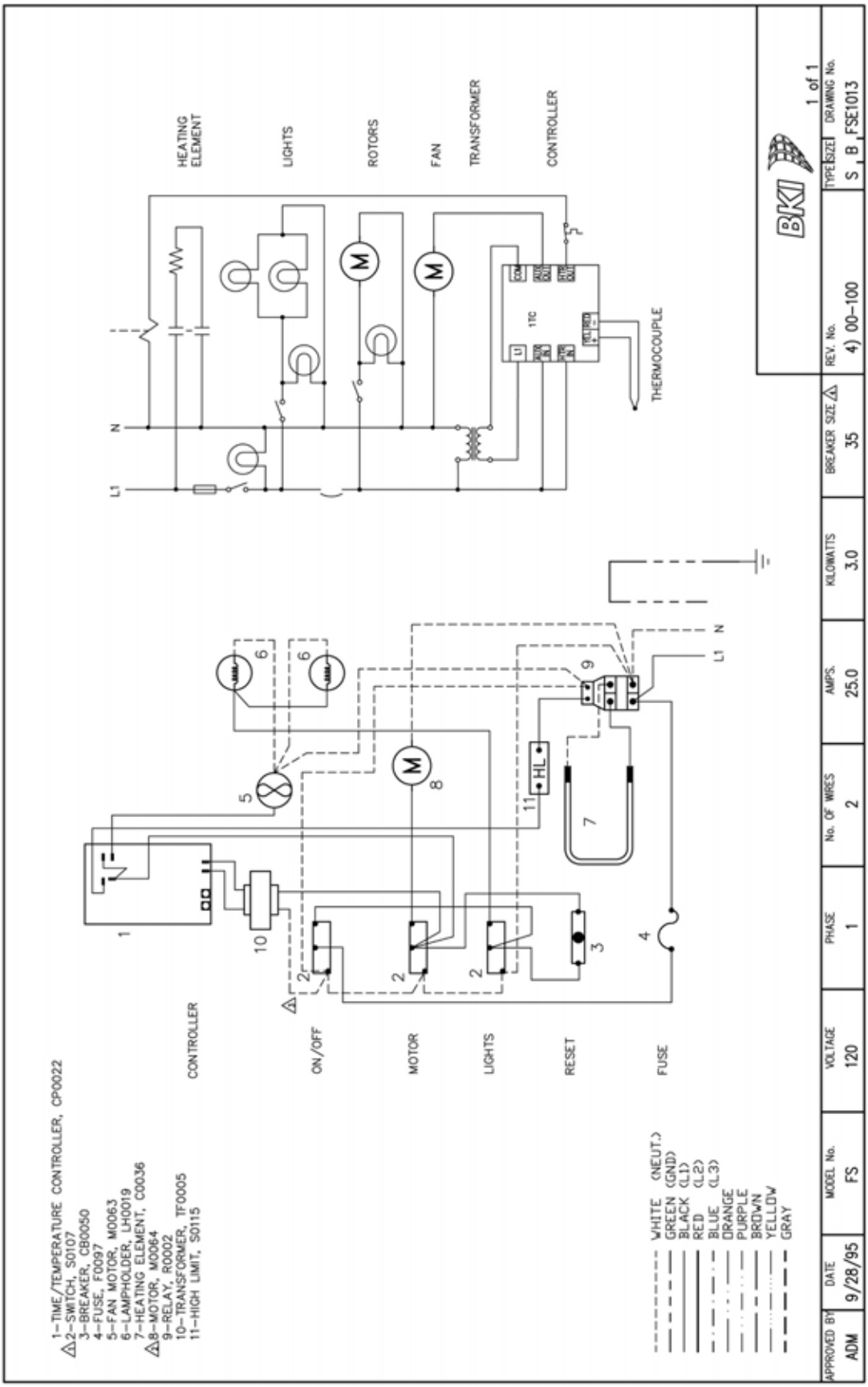


***Figure 9.*** *120V/208V/1 Phase*

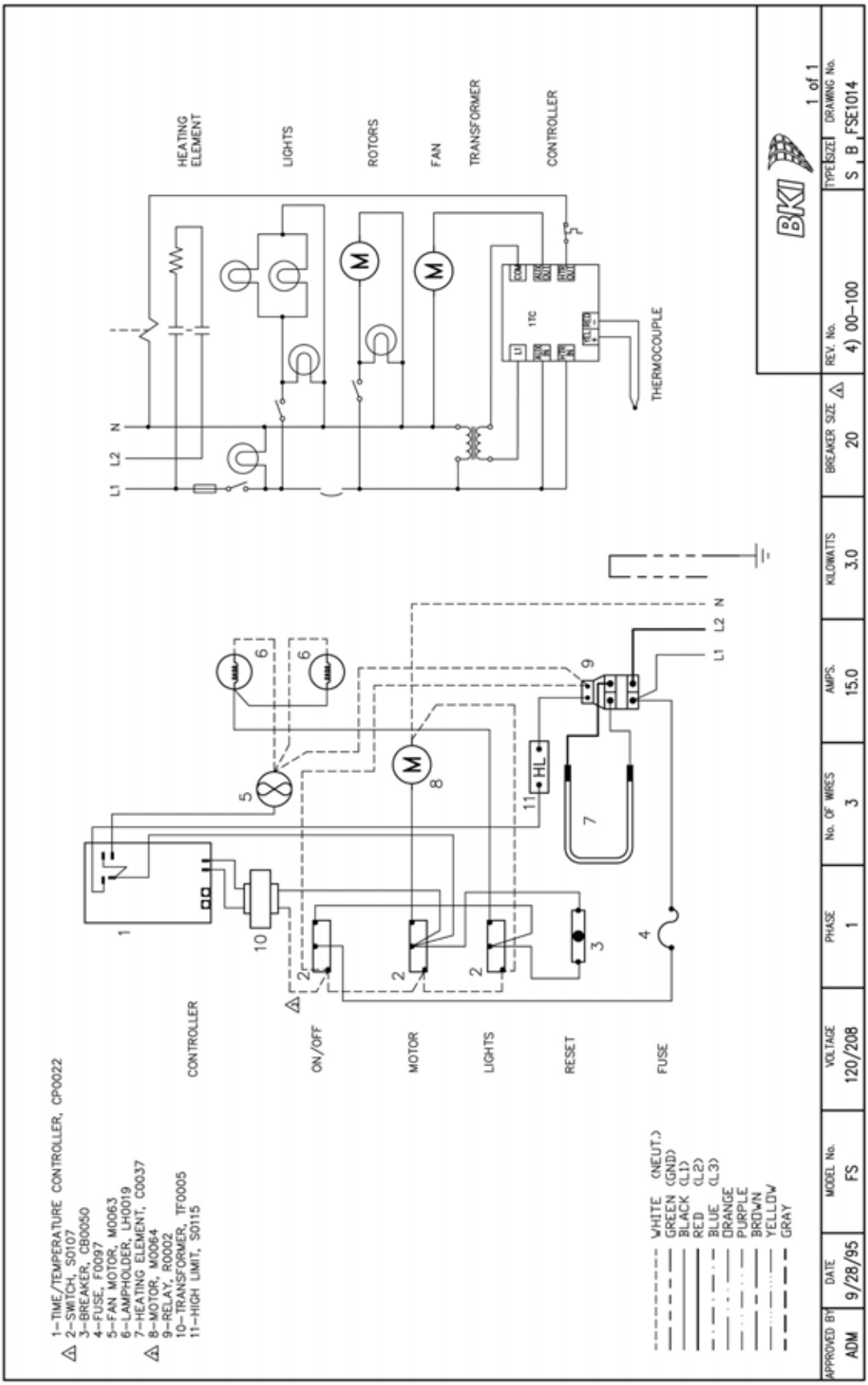


***Figure 10.*** *208-220V/240V/1 Phase*

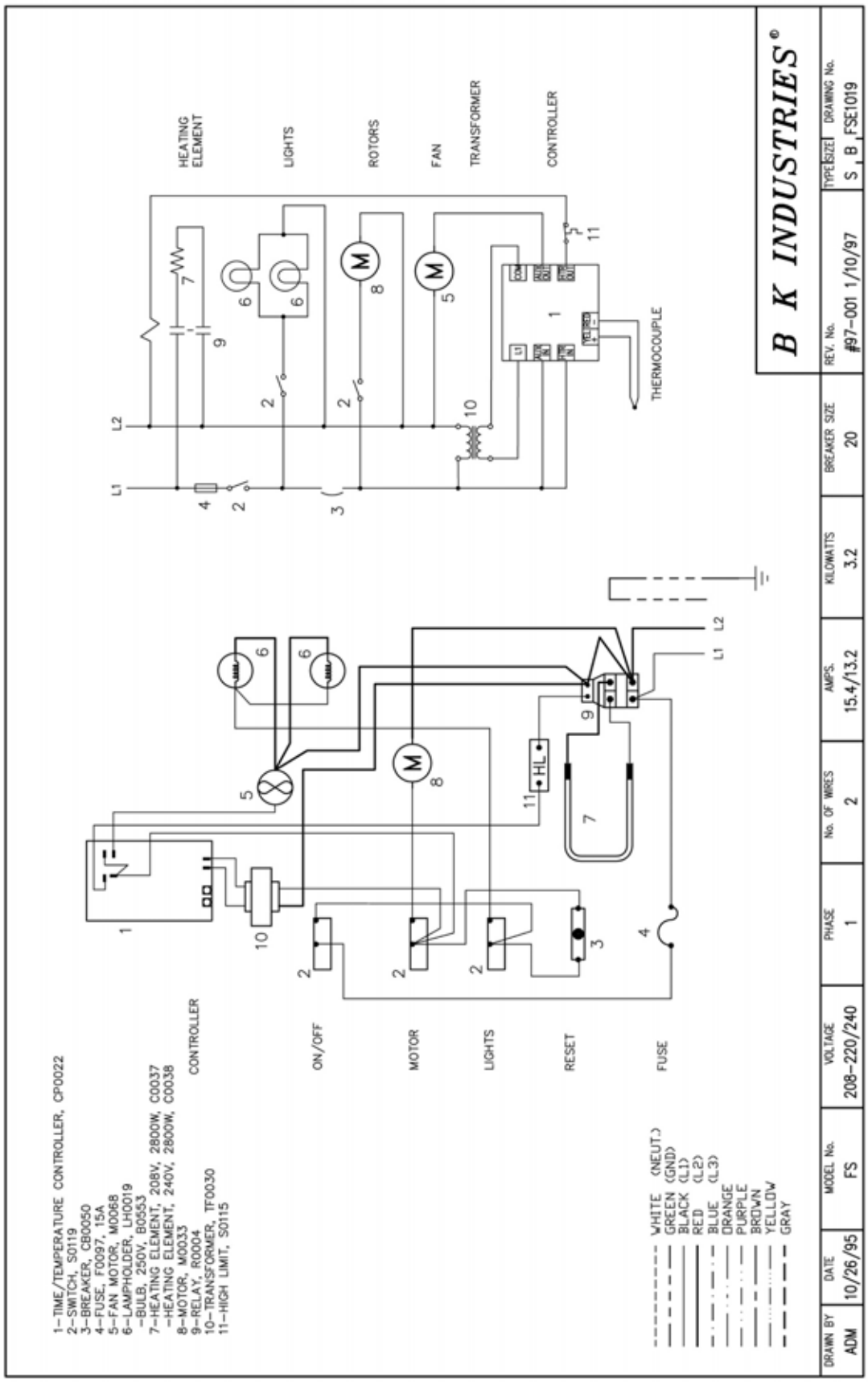


***Figure 11.*** *220V/240V/50HZ/1 Phase*

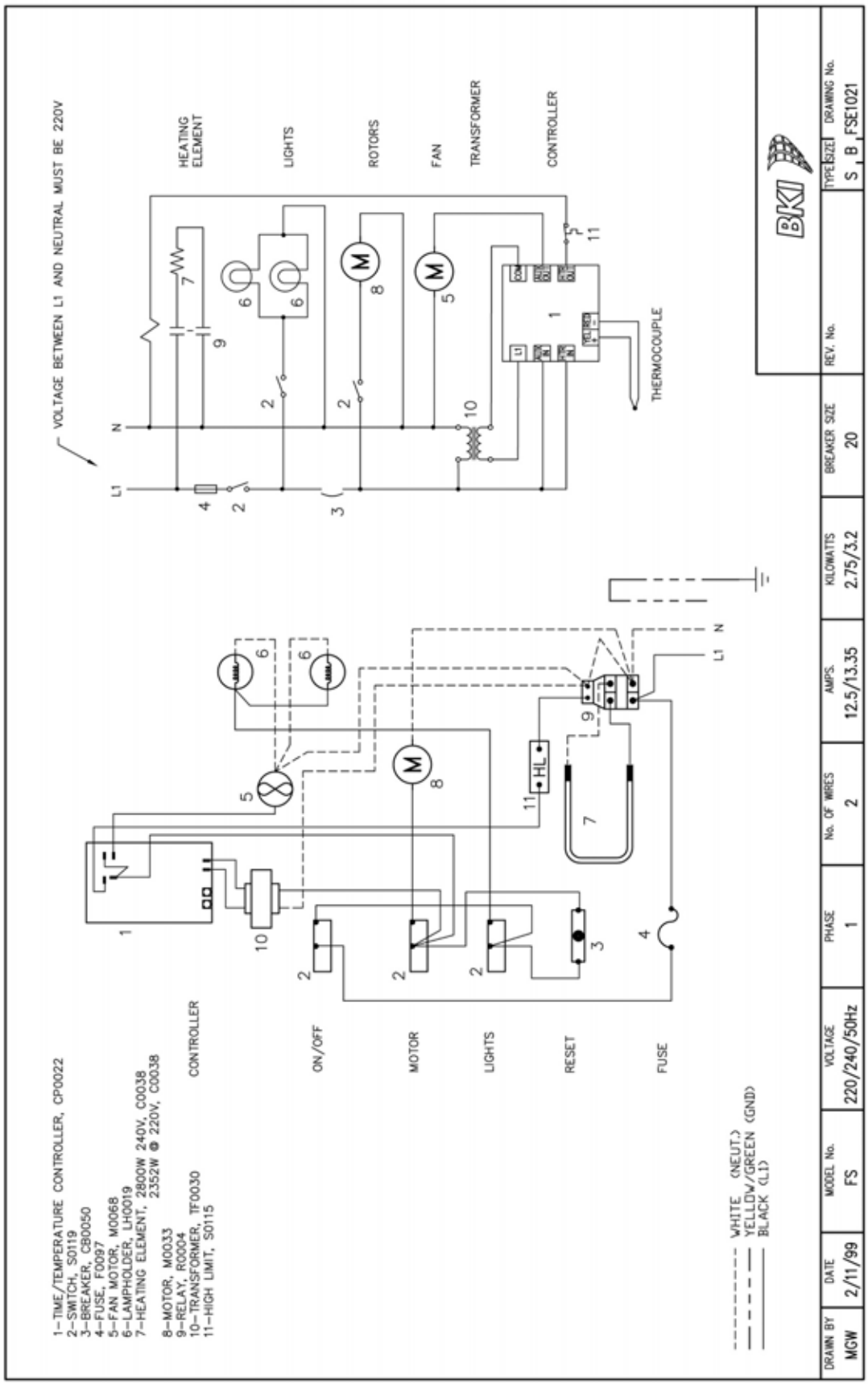
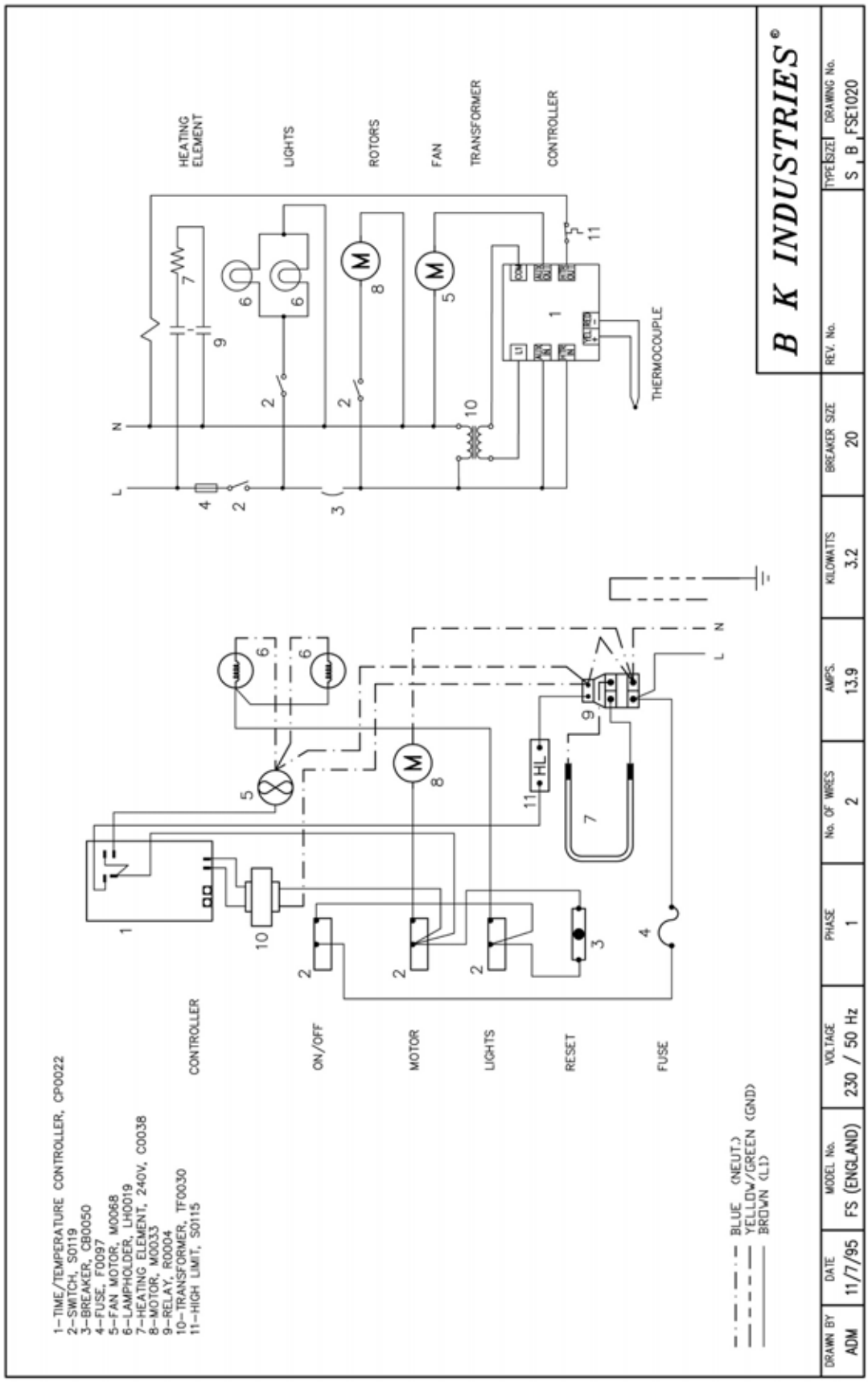


***Figure 12.*** *230V/50HZ/1 Phase*



# Notes

P.O. Box 80400, Simpsonville, S.C. 29680-0400, USA
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